

Observations of Comet III. 1882 (*Barnard's*). By
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I made three observations of this comet at Aberdeen Road (South Africa), where I was stationed for the Transit of *Venus*, and as they are of later date than any I have seen published they may be useful. No micrometers were provided for the 6-inch Equatorials sent out by the Transit Committee, but I fitted a ring-micrometer (belonging to the Cape Observatory) to mine. The longitude of my station was determined by exchanges of telegraphic signals with the Cape Observatory on four nights, and the latitude by transits of stars over the prime vertical on two nights. The results are:—

$$\lambda = -1^{\text{h}} 37^{\text{m}} 15^{\text{s}}.6. \quad \phi = -32^{\circ} 45' 57''.$$

The observations of the comet are corrected for refraction, and the diameter of the ring was determined by observations at the time. The comet presented the appearance of a small round diffused mass, slightly more condensed towards the centre, which was the point observed.

Date.	Local Sid. Time.	$d\alpha(\zeta-\star)$	$d\text{N.P.D.}(\zeta-\star)$	No. of Transits.	Comp. star.
	h m s	m s	' "		
1882, Dec. 3	1 16 33.8	-1 7.54	-12 19.4	6	<i>a</i>
5	1 51 0.4	-0 15.35	-1 25.9	3	<i>b</i>
7	1 54 27.4	-2 22.44	-12 33.5	7	<i>c</i>

The stars *a* and *b* have each been observed twice on the meridian at the Cape Observatory, and the results placed at my disposal by Mr. Gill. Star *c* is number 9214 of Mr. Stone's Catalogue. Their mean places for 1882.0 and corrections to date of observation are:—

Star.	Mag.	Right Ascension.	Corr.	N.P.D.	Corr.
		h m s	s	' "	"
<i>a</i>	8	16 29 28.42	+3.74	150 55 7.91	+0.08
<i>b</i>	9	16 38 36.17	+3.76	150 15 8.86	-0.65
<i>c</i>	6½	16 49 37.64	+3.76	149 8 30.29	-1.41

and the resulting places of the comet are:—

Date.	Greenw. M.T.	Right Ascension.	Parall. Factor.	N.P.D.	Parall. Factor.
	h m s	h m s		' "	
1882, Dec. 3	6 49 20.1	16 28 24.62	+0.086	151 7 27.4	+0.75
5	7 15 49.2	16 38 24.58	+0.077	150 13 42.3	+0.78
7	7 11 23.8	16 47 18.96	+0.070	149 21 3.4	+0.81

Royal Observatory, Cape of Good Hope:
1883, Nov. 24.

The Elements of the Orbit of Comet a, 1883 (Brooks-Swift).
By Robert Bryant.

The following observations of this comet were made

	App. R.A.	App. δ
	^h ^m ^s	[°] ['] ^{''}
1883, Mar. 3·29997 G.M.T.	0 12 23·663	+ 32 0 47·27

at Cambridge, England; and

	App. R.A.	App. δ
	^h ^m ^s	[°] ['] ^{''}
Mar. 23 7 43 50 Paris M.T.	2 51 58·5	+ 25 27 33
Apr. 12 8 27 36 Paris M.T.	4 19 24·2	+ 15 56 12

at the Paris Observatory.

These observations were corrected for the effects of parallax and aberration by means of approximate elements previously determined; and then by the variation of curtate distances parabolic elements were determined. The following elements, referred to the mean equinox 1883, are those which gave the least residuals in the middle place.

$$\begin{aligned}
 T &= 1883, \text{ Feb. } 18\cdot95224 \text{ G.M.T.} \\
 \pi - \varpi &= 110^{\circ} 56' 29\cdot2'' \\
 \varpi &= 278^{\circ} 5' 59\cdot5'' \\
 i &= 78^{\circ} 5' 37\cdot7'' \\
 \log. q &= 9\cdot8809143. \text{ Motion direct.}
 \end{aligned}$$

These elements give for the errors of the middle place
(Observation — Computation)

$$\Delta\alpha \cos \beta = + 34'' \cdot 1, \quad \Delta\beta = + 74'' \cdot 0.$$

where α and β denote the geocentric longitude and latitude respectively.

The interval between the extreme observations is 40 days, and the arc of anomaly described 51° .

The Meteor Shower of Pons's Comet. By W. F. Denning.

The meteoric radiant point of Pons's comet (1812) is at $200^{\circ} + 68^{\circ}\cdot5$ December 6+, and the theoretical meteor speed is 37 miles per second.* The comet, however, in crossing the node, is some 20 millions of miles distant from the earth's orbit on the in-

* British Association Report on Luminous Meteors, 1875, p. 234. The radiant point computed from MM. Schulhof and Bossert's orbit (1884) is at $197^{\circ}\cdot8 + 67^{\circ}\cdot3$ (*Nature*, Jan. 17, p. 273).